

CLAIMS

What is claimed is:

1. A storage system for a hand-held device, comprising:
 - a housing having a base and at least two sidewalls extending generally perpendicular from the base, the housing extending between two ends spaced apart from each other;
 - an axis extending from one end of the housing to the other, the housing having an opening at one of the ends dimensionally configured to receive the hand-held device along a direction generally parallel to the axis; and
 - a latch located near the opening, the latch having an upper surface movable relative to the base between a first position and a second position;
 - in the first position, the upper surface being generally planar to the base to facilitate insertion and removal of the hand-held device;
 - in the second position, the upper surface being spaced from the base in a direction that the sidewalls extend from the base.
2. The system of claim 1, the upper surface of the latch is generally contoured in accordance to the shape of the hand held device to promote insertion and removal of the device.
3. The system of claim 1, the upper surface of the latch is generally contoured in the shape of a thumb.
4. The system of claim 1, the latch is spring loaded to facilitate movement of the latch from the first position to the second position.

5. The system of claim 1, the housing is employed to mitigate shock and vibration of the hand held device in multiple degrees of freedom during storage of the device.
6. The system of claim 1, the base further comprising of a mechanical compartment and an electrical compartment, the mechanical compartment providing an operating region for the latch, the electrical compartment providing an interface for the hand held device.
7. The system of claim 6, the interface including a processor and associated memory and circuitry adapted to transfer data from the hand held device to at least one of the base and a remote system.
8. The system of claim 7, the base having one or more interface ports operatively coupled to the interface and adapted to communicate to the remote system.
9. The system of claim 6, the electrical compartment and mechanical compartment are isolated *via* a sealing barrier and a grommet to mitigate contaminants being transferred to the electrical compartment.
10. The system of claim 6, the interface enables charging of the hand held device.
11. The system of claim 6, the mechanical compartment further comprising a storage compartment for storing at least one of a battery, a fuse, and a replacement component associated with the hand held device.
12. The system of claim 11, the storage compartment including charging contacts for the battery.

13. The system of claim 12, the charging components are spring-loaded to facilitate removal of the battery.
14. The system of claim 13, the storage compartment further comprising a spring-loaded latch that cooperates with the charging contacts to facilitate insertion and removal of the battery.
15. The system of claim 6, the mechanical compartment and the base including one or more drainage ports to facilitate removal of contaminants from the compartment.
16. The system of claim 1, the base further comprising of one or more mounting studs to attach the storage system to at least one of a vehicle, a wall, and other object.
17. The system of claim 1, the hand held device is at least one of an inventory system, a cell phone, and a hand held computer.
18. A method to facilitate storage of a hand held device, comprising:
restricting movement of the hand held device in a housing according to multiple degrees of freedom;
providing an opening in the housing to permit storage and removal of the device in the housing;
positioning a latch in front of the opening when storing the hand held device in order to mitigate device movement in a final degree of freedom; and
depressing the latch when removing the device.
19. The method of claim 18, further comprising interfacing to a remote system during storage of the hand held device.

20. The method of claim 18, further comprising charging the hand held device during storage of the device.
21. The method of claim 18, further comprising storing auxiliary components associated with the hand held device near the housing, the auxiliary components including at least one of a battery, a fuse, and a replacement component associated with the hand held device.
22. The method of claim 21, further comprising charging the battery.
23. The method of claim 22, further comprising force-loading charge contacts associated with the battery to facilitate storage and removal of the battery.
24. The method of claim 18, further comprising providing drainage ports to mitigate contaminants in the housing.
25. A system to facilitate storage of a hand held device, comprising:
means for restricting movement of the hand held device in multiple degrees of freedom;
means for permitting storage and removal of the hand held device in the housing;
means for latching the hand held device in order to mitigate device movement in a final degree of freedom;
means for releasing the hand held device from storage;
means for storing auxiliary components associated with the hand held device; and
means for removing the auxiliary component.
26. The system of claim 25, further comprising means for charging the auxiliary component.

27. A cradle for storing a hand held device, comprising:
a base unit to store the hand held device;
a mechanical compartment associated with the base unit, the mechanical compartment housing a latching component that limits movement of the hand held device in a final degree of freedom; and
an electrical compartment associated with the base unit and the mechanical compartment, the electrical compartment housing interface components that are isolated from moisture that enters the mechanical compartment *via* at least one of an isolation barrier and a grommet.
28. The cradle of claim 27, the mechanical compartment further comprising one or more drainage ports to exhaust the moisture that enters the compartment.
29. A cradle for storing a hand held device, comprising:
a base unit to store the hand held device, the base unit having sidewalls to limit movement of the hand held device according to multiple degrees of freedom; and
a latching component that limits movement of the hand held device in a final degree of freedom, the latching component having an upper surface movable relative to the base unit between a first position and a second position;
in the first position, the upper surface being generally planar to the base unit to facilitate insertion and removal of the hand held device in a singular motion;
in the second position, the upper surface being spaced from the base unit to mitigate shock and vibration of the hand held device.